TO

SPECIFICATION FOR APPROVAL

DESCRIPTION: Pitch 2.0 mm Wire To Board Connector, R/A ,SMT Type

CUSTOMER PROD.NO/DWG.NO:

E&T PROD.NO: 4510K-XXXX-XXX

APPROVAL SHEET NO:

E&T DWG. NO./DOCUMENT: 4510K-XXXX-XXX

REV: A4

PLEASE RETURN TO US ONE COPY OF"SPECIFICATION FOR APPROVAL"WITH YOUR APPROVED SIGNATURES.

APPROVED SIGNATURES			

The Quality Connection

ENTERY INDUSTRIAL CO., LTD.
E&T ELECTRONICS (DONG GUAN) CO., LTD.
E&T ELECTRONICS (SU ZHOU) CO., LTD.
E&T ELECTRONICS (NANKEEN)CO.,LTD.

ENTERY INDUSTRIAL CO., LTD.

Title : Pitch 2.00mm Wafer Connector SMT V/T Type

RELEASE HISTORY		Title: Pitch 2.00mm Wafer Connector SMT V/T Type	
A4	2012/03/05	This Document Contains Information That Is Proprietary To E&T And Should Not Be Used Without Written Permission	
Rev	Description		
Document No. 4510K-XXXX-XXX		Prepared By:John Liu	Date: 10,02'2009
		Checked By:	Date:
		Approved By:	Date: 03,05,2012

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GROUP AND TEST SEQUENCE

Test of Examination		Test Group										
		A	B	C	D	E	F	G	H	I	J	K
1	Examination of Product	1,9	1,6	1,5	1,5	1,5	1,3	1,3	1,3	1,5	1,5	
2	Contact Resistance	2,6	2,5	2,4	2,4	2,4				2,4	2,4	
3	Insulation Resistance	3,7										
4	Dielectric Strength	4,8										
5	Insertion Force And Withdrawal Force		3									
6	Terminal / Housing Retention Force											1
7	Durability		4									
8	Vibration			3								
9	Heat Resistance				3							
10	Cold Resistance					3						
11	Humidity	5										
12	Solder Ability						2					
13	Resistance To Soldering Heat							2				
14	Steam Aging								2			
15	Salt Spray									3		
16	Temperature Cycling										3	

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PRODUCT SPECIFICATION

1. SCOPE :

This specification covers the Pitch 2.0 mm WTB R/A ,SMT Type series.

2. PRODUCT NAME AND PART NUMBER :

Product Name	E&T Part Number
2.0 mm Wire To Board Connector, R/A,SMT Type	4510K-XXXN-XXX

3. RATINGS :

Item	Standard	
Rated Voltaget (MAX.)	200V	(AC(rms/DC)
Rated Current (MAX.)	2 A	
Ambient Temperature Range		-45^0C ~ $+85^0$C

*1. Including terminal temperature rise.

4. PERFORMANCE :

4-1 Electrical Performance

Item		Test Condition	Requirement
4-1-1	Contact Resistance	Mate applicable PIN header and measure by dry circuit , 20mV MAX., (Based upon JIS C5402 5.4)	20 mΩMAX.
4-1-2	Insulation Resistance	Mate applicable PIN header and apply 650V DC between adjacent terminal or ground. (Based upon JIS C5402 5.2 / MIL- STD -202 Method 302 Condition .B)	1000MΩMIN.
4-1-3	Dielectric Strength	Mate applicable PIN header and apply 650V AC (rms) for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL- STD -202 Method 301)	No Breakdown

4-2 Mechanical Performance

Item		Test Condition	Requirement	
4-2-1	Actuator Insertion/ Withdrawal Force	Mate applicable PIN header and Insert and Withdraw actuator at the speed rate of 25±3 ㎜ / minute.	Refer to paragraph 6	
4-2-2	Terminal/Housing Retention Force	Apply axial pull out force at the speed Rate of 25±3 ㎜ / minute on the terminal Assembled in the housing.	0.8kgf MIN.	
4-2-3	Durability	The contacts of connector shall be subject to 30 cycles of mating and unmating.	Contact Resistance	
			Initial Value	≦ 20 mΩ
			Final Value	≦ 40 mΩ

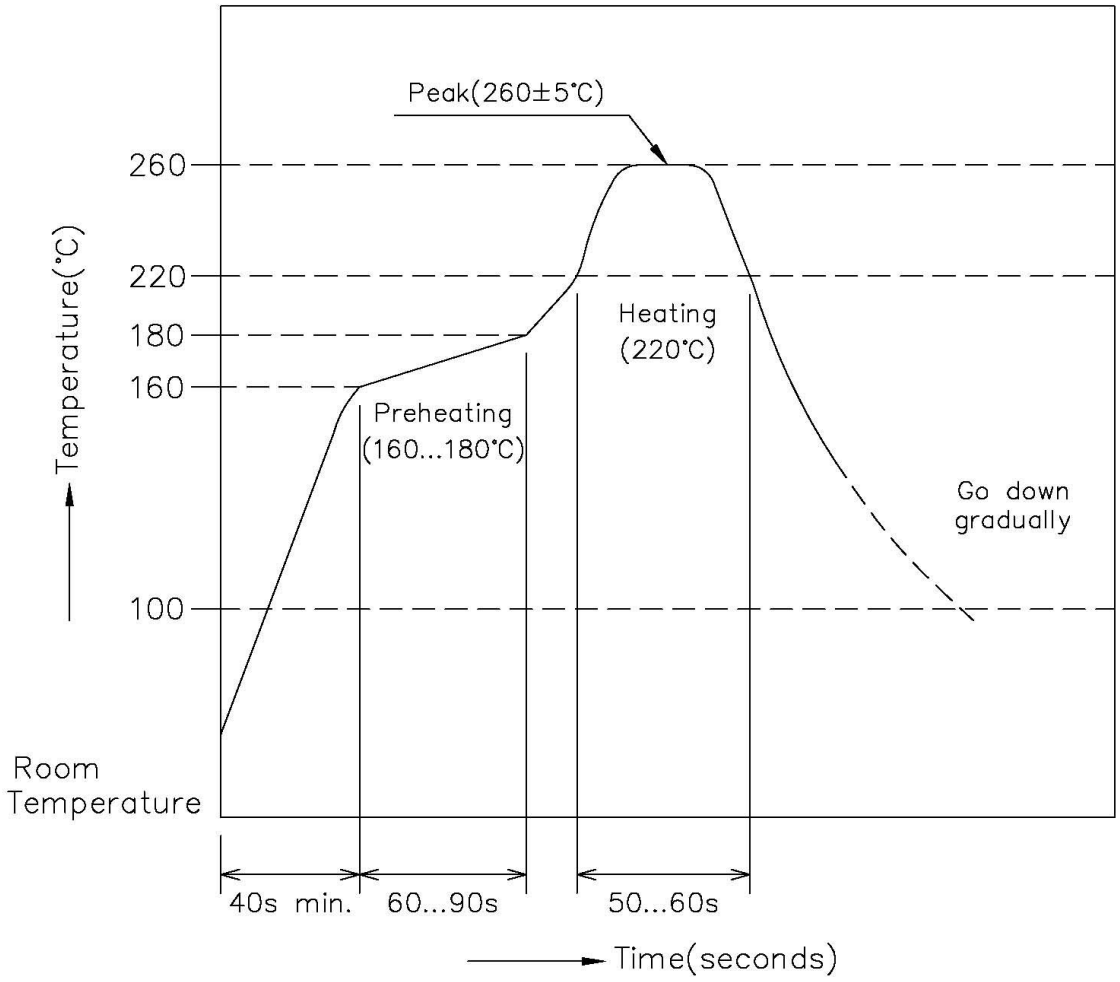
4-3 Environmental Performance and Others

Item		Test Condition	Requirement
4-3-1	Heat Resistance	85±2℃, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Condition A)	Appearance : No Damage
			Contact Resistance : 40mΩMAX
4-3-2	Temperature Cycling	5 cycles of : a) – 25 ±3℃ 30 minutes b) +25 ± 3℃ 30 minutes b)+ 85 ±3℃ 30 minutes (Based upon JIS C0025)	Appearance : No Damage.
			Contact Resistance : 40 mΩMAX.
4-3-3	Humidity	Temperature : 40±2℃ Relative Humidity : 90~95% Duration : 96 hours (Based upon JIS C0022/MIL-STD-202 Method 103B Condition .B)	Appearance : No Damage.
			Contact Resistance : 40 mΩMAX.
			Dielectric Strength : Must meet 4-1-3
			Insulation Resistance : 500MΩMIN.
4-3-4	Cold Resistance	-45±2℃, 96 hours (Based upon JKS C0020)	Appearance : No Damage.
			Contact Resistance: 40 mΩMAX.
4-3-5	Salt Spray	48±4 hours exposure to a salt spray from the 5±1% solution at 35±2℃. (Based upon JIS C5028/MIL-STD-202 Method 101D Condition . B)	Appearance : No Damage.
			Contact Resistance : 40 mΩ max.
4-3-6	Solder ability	Soldering Time : 3±0.5 sec. Solder Temperature : 245±5℃	Solder Wetting : 95% of immersed area must show no voids, pin holes
4-3-7	Resistance to Soldering Heat	Soldering Time : 10±0.5 sec. Solder Temperature : 260±5℃MAX	Appearance : No Damage

Item		Test Condition	Requirement	
4-3-8	Vibration	Amplitude : 1.5 mm Frequency range: 10~55~10 Hz in 1 minute Duration: 2 hours in each X.Y.Z axes Current: 100mA. Test Method: MIL-STD-202F, Method 201	Appearance	No Damage
			Contact Resistance	≦40 mΩ
			Discontinuity	1μsec
4-3-9	Steam Aging	Steam Aging Temperature : 98±2℃ Duration: 8 hours Solder Temperature : 245±5℃ Soldering Time : 3±0.5 sec Test Method: MIL-STD-202F , Method 208	Appearance	No Damage
			Solder Wetting	95% Of Immersed Area Must Show No Voids, Pin Holes

5.INFRARED REFLOW CONDITION

1) Ascending time to preheating temperature 170°C shall be 40 seconds minimum.
2) Preheating shall be fixed at 160...180°C for 60...90 seconds.
3) Heating shall be fixed at 220°C for 50...60 seconds.
4) At 260±5°C peak shall be 10 seconds maximum.



6. INSERTION / WITHDRAWAL FORCE（4.2.1）

No. of CKT	UNIT	Insertion(MAX)			Withdrawal(MIN)		
		1 st	6th	30th	1 st	6 th	30 th
2	N Kg f	35.2 {3.6}	35.2 {3.6}	39.2 {4.0}	3.4 {0.35}	2.4 {0.25}	2.4 {0.25}
3	N Kg f	43.1 {4.4}	43.1 {4.4}	47.0 {4.8}	3.9 {0.40}	2.9 {0.30}	2.9 {0.30}
4	N Kg f	50.9 {5.2}	50.9 {5.2}	55.8 {5.7}	4.4 {0.45}	3.4 {0.35}	3.4 {0.35}
5	N Kg f	58.8 {6.0}	58.8 {6.0}	63.7 {6.5}	4.9 {0.50}	3.9 {0.40}	3.9 {0.40}
6	N Kg f	64.6 {6.6}	64.6 {6.6}	71.5 {7.3}	5.9 {0.60}	4.9 {0.50}	4.9 {0.50}
7	N Kg f	70.5 {7.2}	70.5 {7.2}	78.4 {8.0}	6.8 {0.70}	5.8 {0.60}	5.8 {0.60}
8	N Kg f	76.4 {7.8}	76.4 {7.8}	87.2 {8.9}	8.3 {0.80}	6.8 {0.70}	6.8 {0.70}
9	N Kg f	62.7 {8.3}	62.7 {6.4}	72.5 {7.4}	7.6 {0.90}	5.9 {0.60}	5.9 {0.60}
10	N Kg f	68.6 {8.8}	68.6 {8.8}	78.4 {8.0}	8.8 {1.00}	6.8 {0.70}	6.8 {0.70}
11	N Kg f	74.4 {9.3}	74.4 {9.3}	84.2 {8.6}	10.0 {1.10}	7.8 {0.80}	7.8 {0.80}
12	N Kg f	80.3 {9.8}	80.3 {9.8}	92.1 {9.4}	11.2 {1.20}	8.8 {0.90}	8.8 {0.90}
13	N Kg f	86.2 {10.3}	86.2 {10.3}	98.9 {10.1}	12.3 {1.30}	9.8 {1.00}	9.8 {1.00}
14	N Kg f	92.1 {10.8}	92.1 {10.8}	105.8 {10.8}	13.5 {1.40}	10.8 {1.10}	10.8 {1.10}
15	N Kg f	98.0 {11.3}	98.0 {11.3}	112.7 {11.5}	14.7 {1.50}	11.7 {1.20}	11.7 {1.20}

Wire To Board
Handling Precautions

This manual is to describe basic precautions. When there are doubtful points in use of, please contact E&T.

1. Common Handling Precautions

- Do not expose E&T's wire to board connector, processing process product and processing product to corrosive substance, corrosive gas, high temperature and high humidity and direct sunshine. It causes corrosion of contact and deterioration of insulation performance of housing, etc., so that it causes motion defect of appliances.
- Do not apply external load to E&T's wire to board connector, processing process product and processing product . Deformation and breakage, etc. occur, and it causes performance defect of.
- There may be slight differences in the housing coloring, but there will be no influence on the product's performance.
- Please do not conduct any "washing process" on the connector because it may damage the product's function.
- E&T's wire to board connector is not designed for the mating and unmating of the connectors to be performed under the condition of an active electrical circuit. It may cause a spark and product defect if the connectors are mated and unmated in this way.

2. PC Board Precautions

- Exercise caution when handling boards with the connectors installed. Do not apply any forces affecting soldered joints. (see figure 1).
- The mounting specification for coplanarity does not include the influence of warpage of the printed circuit board. (see figure 1).
- Changing recommended pattern causes problems.

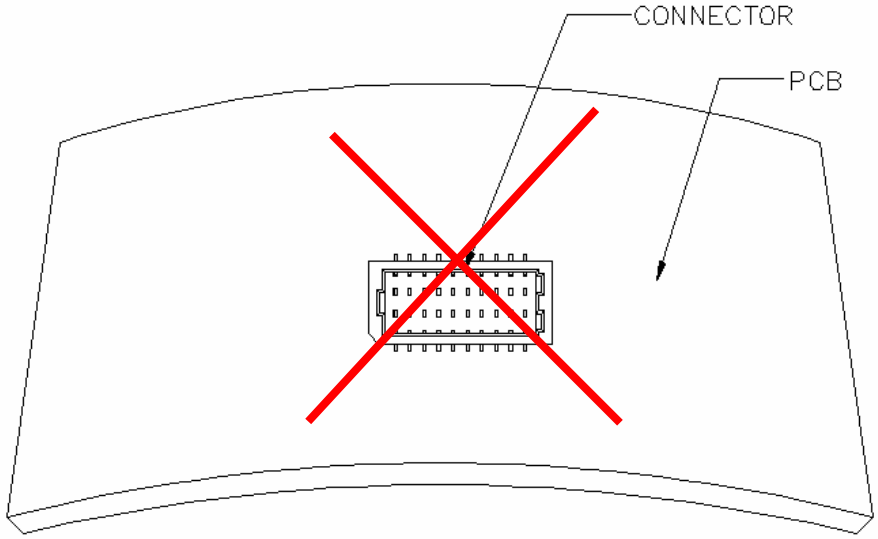


Figure 1.

3. Precautions Crimped Terminal Insertion

- Terminal must be inserted horizontally oriented (see figure 2).
- Do not attempt to insert crimped terminal in any other direction. (see figure 2).

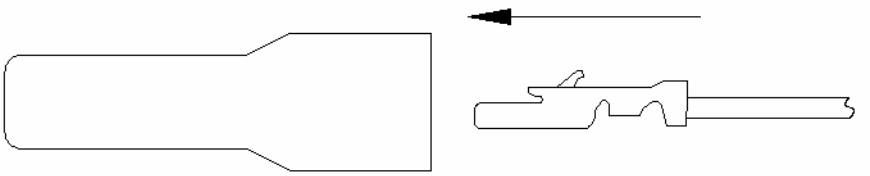


Figure 2.

4. Precautions When Inserting or Withdrawal Wire To Board

- Do not insert and remove at an angle of 25° or greater. Doing so will cause contact deformation or case damage. (see figure 3).
- Push the wire side connector until firmly closed. At this time, confirm that the wire side connector is mated securely.
- When mounting of connectors, its slant or aberration shall be 3° max.
- Do not insert and remove the connectors when the board side connector is not mounted on the PC board.
- Used Lock type, when removed to connectors, please released positive locks.

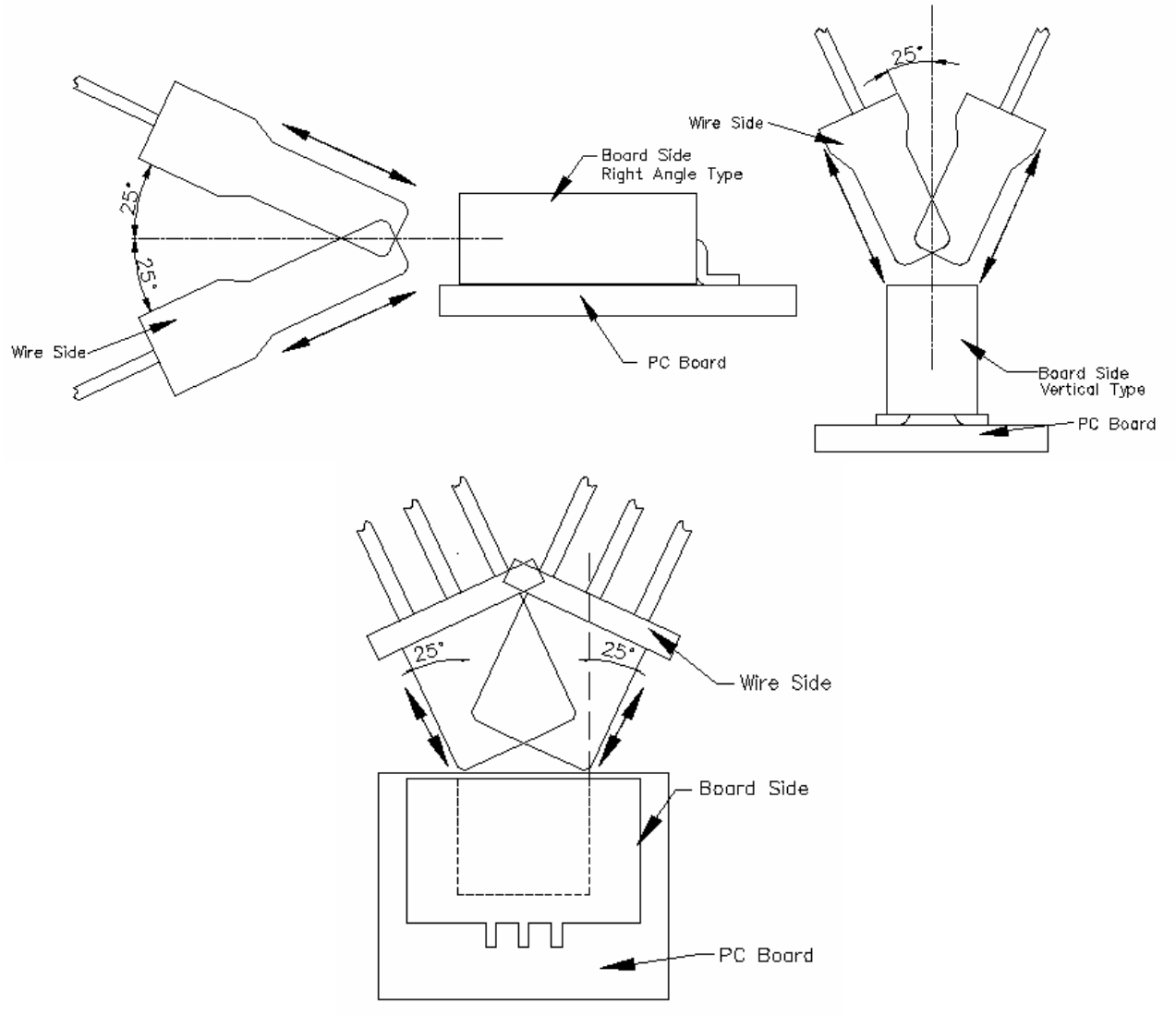
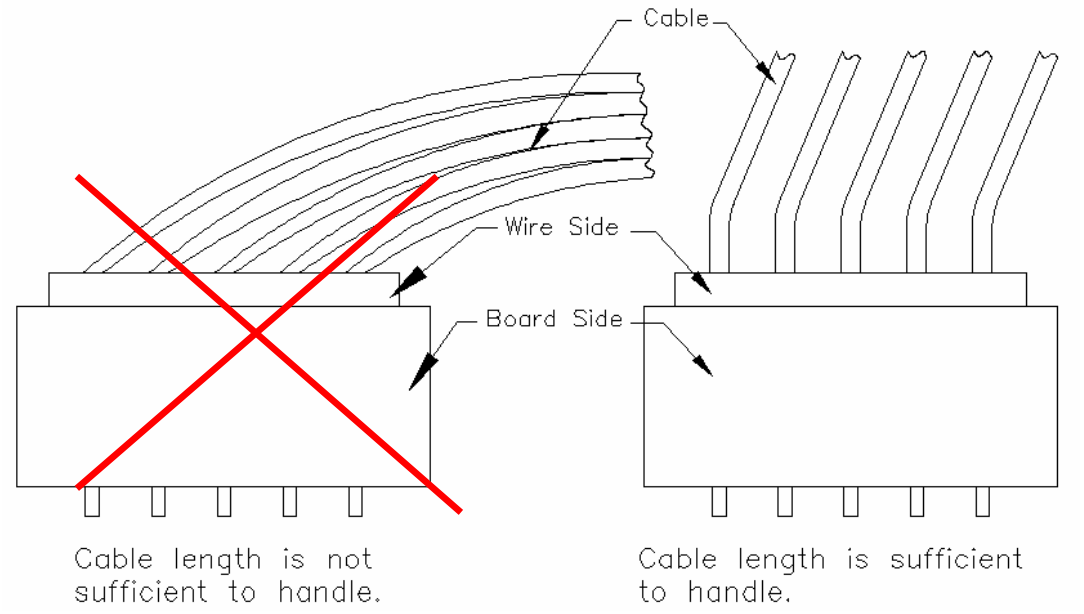
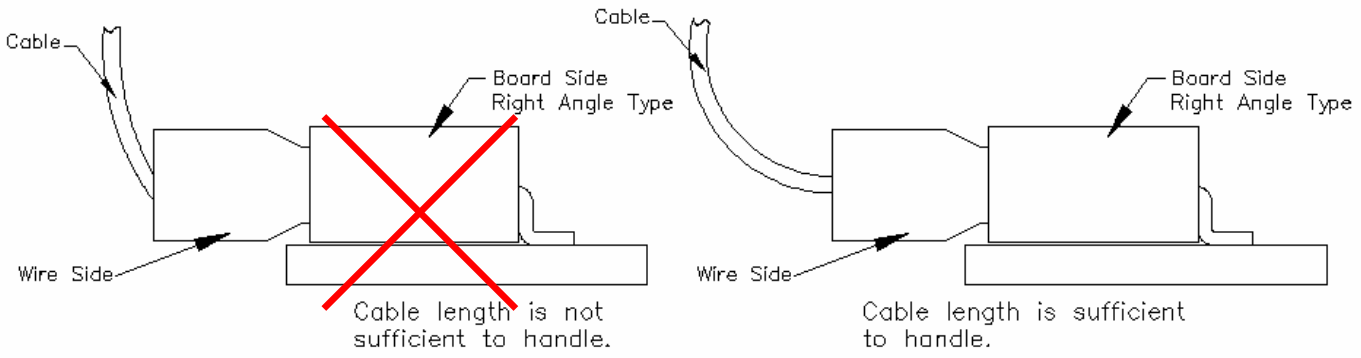


Figure 3.

5. Precautions Cable Assembly

- The cable assembly should not have a constant stress or pulling force applied on it when it is in the mated condition. Therefore, when designing the wire positioning, please ensure that there is enough length of wire to avoid stress on the connector. (see figure 4).





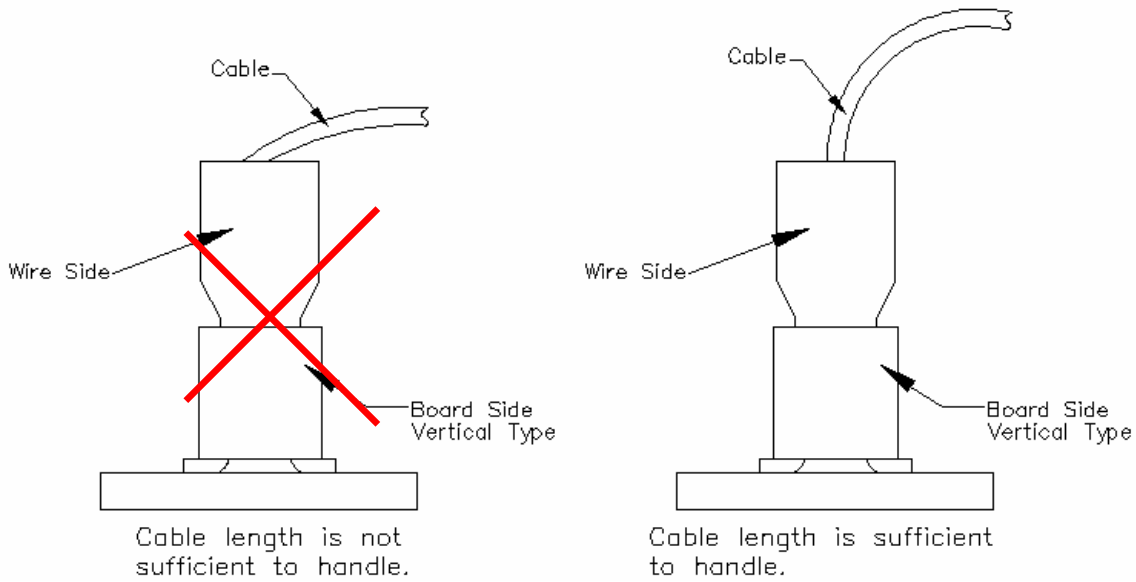


Figure 4.

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RELEASE HISTORY

Rev.	Revisions	Date	Executor	Description
A2	S10005028	May-05-2011	Jimmy	Modify
A3	RE201110012 RE201111028	Oct-18-2011	Juno	Add Handling Precautions. Cancel Packaging Spec
A4	REN120305	May-05-2012	Jimmy	Modify